

REMARKS

I. Status of the Currently Pending Claims

Claims 1, 3, 4, 9, 11, 12, and 18 were rejected under 35 U.S.C. §112 for alleged indefiniteness. The Office Action identifies a number of specific reasons for this rejection. Applicant respectfully asserts that this response renders moot all of the §112 rejections, and that each of the new claims 19-32 complies with §112.

More specifically, this response amends the Specification in the matter suggested on page 3 of the Office Action. This response also amends the Specification to now expressly include reference numbers 16a, 26a (Fig 2), and 10b, 16b, 21b, 26b (Fig 3) and to delete the reference to “30b” on page 9, line 25. This response includes one replacement drawing. More specifically, a replacement drawing for Fig 1 now shows arrows 28. Applicant respectfully asserts that the reference number 10 correctly refers, in general, to either the container or the piping system. For instance, the first line of the detailed description states “In fig 1 a container in the form of a piping system, . . .” Thus, there should be no objection to the use of “container 10” on page 10, lines 22 and 28.

Substantively, Claims 1-6 and 13-18 were rejected for alleged lack of novelty under §102(b) based on Kroebig et al. US 4,000,776 (Kroebig ‘776). Claims 1-7 and 10-18 were rejected for alleged lack of novelty under §102(b) based on Kleen US 2,499,736 (Kleen ‘736). And claims 1, 8-12, and 15 were rejected for alleged lack of novelty §102(b) based on Hallin et al. US 5,966,951 (Hallin ‘951).

Applicant respectfully traverses their rejections. Nonetheless, Applicant has cancelled Claims 1-18 and added new Claims 19-32 to more clearly set forth the subject

matter regarded as patentable. Based on the Amendments to the Claims, Applicant respectfully requests reconsideration of the patentability of the pending claims.

II. New Claims 19-32 Are Novel

New claim 19 is an independent claim that combines the feature of original claims 1, 4, 5, 6, and 7. New claims 20-31 depend on claim 19, either directly or indirectly. Thus, as a result of this amendment, the prior Section 102(b) rejections based on Kroebig '726 and Hallin '951 are moot as to each of these new claims. Therefore, the only remaining Section 102(b) rejection, and therefore the only substantive rejection that is potentially applicable, would be based solely on Kleen '736.

Yet, Kleen '736 does not include a ventilator. Rather, Kleen '736 discloses an air duct 31, (see Fig 4), and relies on the introduction of ambient air from outside the aircraft, due to movement of the aircraft. Thus, Kleen '736 discloses a structure for routing, to the inside of the aircraft, ambient air received from outside the aircraft, and Kleen '736 teaches a structure that causes the desired heat transfer to occur internally. Accordingly Kleen '736 also does not disclose using a section of the external wall of the aircraft as a heat sink.

Either one of these two structural differences, i.e. no ventilator, and no outer wall heat sink, would be sufficient by itself to overcome a purported lack of novelty rejection asserted against any of these claims. For these reasons, applicants respectfully assert that each of new claims 19-31 is novel over Kleen '736.

Similarly, independent claim 32 is a method claim which substantially corresponds to apparatus claim 1. That is, similar to claim 1, claim 32 expressly recites that the heat sink includes a section of an external wall of the aircraft, and also expressly includes a ventilator operatively connected to at least one heat exchanger. For substantially the same reasons set

forth above with respect to new claim 19, applicants respectfully assert that new claim 32 also patentably defines over Kleen '736.

III. Claims 19-32 Patentably Define Over the Prior Cited Art

Kroebig '776 fails to disclose a ventilator. Moreover, Kroebig '776 fails to disclose any active control of heat transfer between a heat exchanger, i.e., in this case the skin of the missile, and a heat source component. The cooling device of Kroebig '776 is located within a missile, which usually flies at such a relatively high velocity that friction between the missile skin and the ambient air would cause the missile skin to heat up. Thus, it is doubtful whether Kroebig '776 could even provide a sufficient cooling effect via the heat pipe system described therein.

Kleen '736 moves ambient air from outside the aircraft to a location inside the aircraft via a duct, to cause a desired heat transfer effect. Kleen '736 discloses an input shutter through which ambient air flows from outside of the aircraft to the interior thereof, and also an output shutter for ducting ambient air from the interior of the aircraft. Thus, Kleen '736 discloses a system which imposes substantial structural requirements on the aircraft, in particular input and output shutters for ducting the ambient air in and out of the aircraft.

For all of these reasons, Kleen '736 teaches away from using the outer skin of the aircraft as part of the heat sink. Still further, Kleen '736 fails to disclose a ventilator for controlling the heating exchanger located at the heat intake section or the heat output section.

Hallin '951 discloses a refrigerator with a piping system. Hallin '951 has nothing to do with the cooling system of an aircraft. Instead, Hallin '951 merely describes a refrigerator.

Yet, even if the refrigerator of Hallin '951 were combined with Kleen '736 (and applicants respectfully assert that there is no objective reason for making such a combination), the resultant purported combination would still be deficient, in that it would not include all the features recited in any of claims 19-32. It would not have a ventilator or use the external wall as part of a heat sink.

Neither Kleen '736, Hallin '951, or Kroebig '776 teaches, suggests, or motivates one of ordinary skill in the art to combine one or more of these references in order to achieve the invention as recited in any of claims 19-32. Applicants acknowledge that, after *KSR*, the teaching/suggestion/motivation test (the "TSM test") is no longer the only test for determining unobviousness. Nonetheless, even in *KSR* the Supreme Court stated that the TSM test is still relevant. It is particularly relevant here, and it weighs in favor of non-obviousness.

Moreover, there is no objective reason to combine one or more of these cited prior art references, and/or to modify one or more of these references so as to achieve the invention as set forth in any of new claims 19-32. For all these reasons, applicants respectfully assert that each of claims 19-32 patentably defines over the cited prior art of record, including the three references cited in the Office Action.

IV. Conclusion

Based on the amendments to the specification and the claims, the replacement drawings and these Remarks, applicant respectfully submits that all presently-pending claims are patentable and should be allowed without delay.

Please see the electronic fee calculation sheet for the charge in the amount of \$120 for the one month extension fee as required by 37 C.F.R. § 1.17(a)(1). If any other fees are

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necessary, the Commissioner is hereby authorized to charge any underpayment or fees associated with this communication or credit any overpayment to Deposit Account No. 23-3000.

Respectfully submitted,


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